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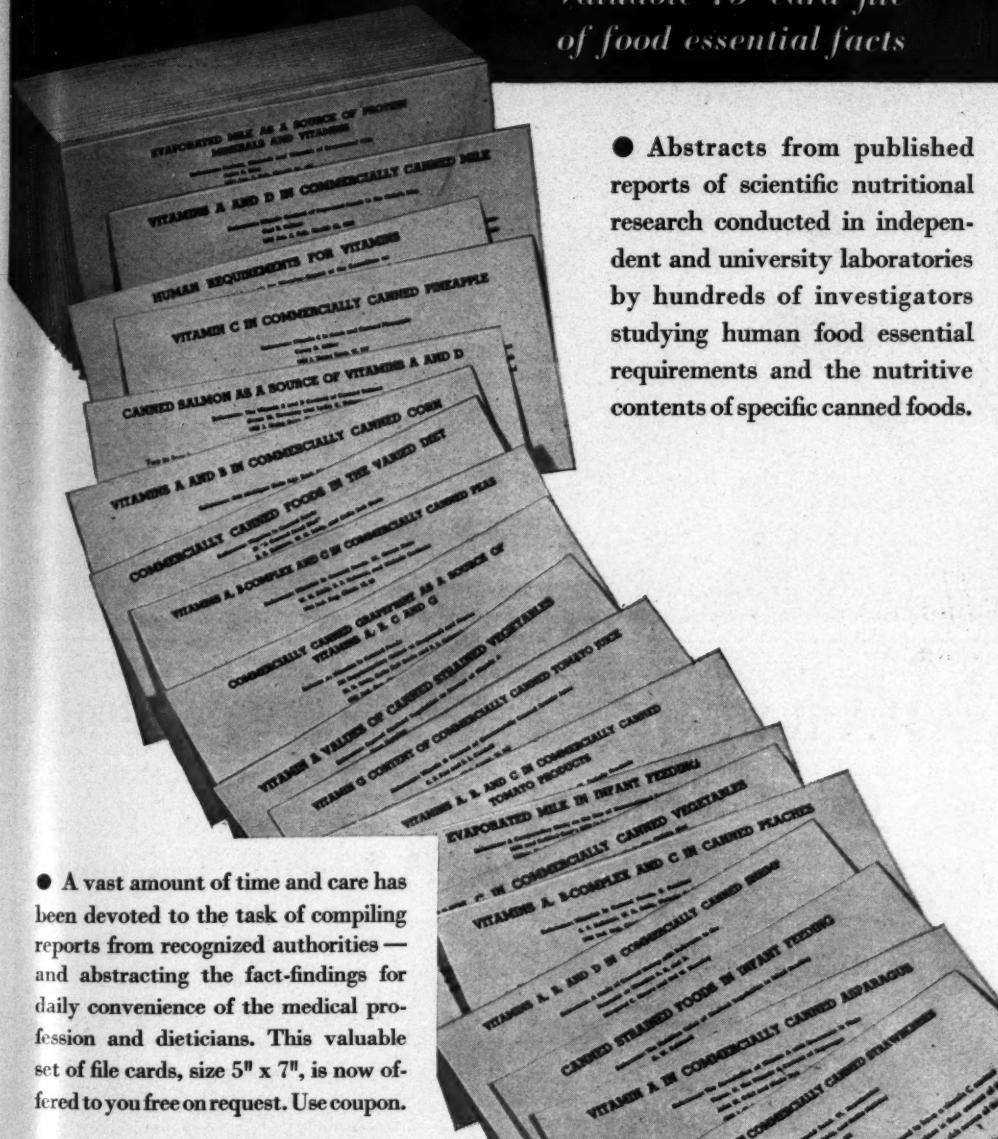
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OCCUPATIONAL PSYCHIATRY AND NEUROLOGY*

M. A. TARUMIANZ**

Farnhurst, Del.

In considering occupational diseases of a chemical nature which involve the central nervous system, survey of the literature seems to indicate that very little has been done to obtain data which can be considered reliable, and the physiological and pathological reaction of the industrial chemicals on the nervous tissue has not been determined. Of equal, if not of more importance, is the psychogenic effect on certain personality types who work at more or less reputably hazardous occupations. The occupational neuroses play a very dominant role in the disabling of employees, the prevention and treatment of which require special technique. We are at no time considering cases of malingerer for the purpose of monetary gain, since careful observation and examination can usually determine the presence of any true pathology, either psychic or organic.

Since all workers in a given environment working under the same conditions do not suffer from the same pathological conditions, it is reasonable to state some people are probably more susceptible to toxic effects of certain chemicals than others. As there is in all probability a physical susceptibility, there may be also a psychic susceptibility which is fertile soil for the development of an occupational neurosis. A highly suggestible, unstable personality combined with ignorance, placed in a position which offers hazards of only the slightest nature will almost invariably develop a neurosis at the first sign of conflict. Inherent neurotic types

of individuals who need a more or less protected environment can often be recognized by a trained person during a short interview. Others may appear to be well adjusted, the neurotic strain appearing only when they are attempting unsuccessfully to adapt themselves to adverse situations, either in the working environment or outside. Thus a man having marital difficulties in the home may develop an occupational neurosis in an attempt to escape unconsciously from his family maladjustment.

Let us pause a moment to discuss the personality types and their reactions. The normal adaptable individual when he discovers that his environment is adverse to his physical health, changes the environment. I can best illustrate this by a case which I saw some time ago. The patient came because of a definite and serious involvement of the central nervous system which showed marked evidence of the possibility of being a brain tumor. On examination it was determined that he was suffering from an encephalitis due to some inorganic substance with which he was working. He improved after some time, attempted to return to his work and had a return of his symptoms. Without further complaint, he decided that he could not continue his trade, so he obtained another position on his own initiative. The patient suffered from no personality difficulty although his symptoms were alarming. After he was satisfied that there was present no brain tumor he handled his own difficulty sensibly, this in spite of the fact that he was living under rather marked economic stress. His attitude towards life was that of an adult and he did not attempt to cling to any physical symptoms unconsciously to seek escape. In fact, my complaint was that he was

*Read before the Medical Department of the Du Pont Company, Wilmington, May 4, 1937.

**Superintendent, Delaware State Hospital.

a little too casual, as it was impossible to get him to return for further examination as soon as he was satisfied that he was recovering. As to the liability of the firm for which he worked, it is not in my province to discuss, yet, undoubtedly I would have stated that he was suffering from a very well-defined occupational disease had the question been brought up. This case merely illustrates how a well-adjusted individual faces difficulty when it arises.

The abnormal personalities find it impossible to face the situation without emotional conflict. The further one delves into the individual personalities, the more it must be recognized that personality types are acquired either very early in childhood or inherited. It is probably true that both factors are intimately concerned. It may easily be true that the ability to react emotionally both in character and strength is inherited, and the manner of reacting to a particular emotion is acquired.

The neurotic personality is that type of personality which has failed to reach an adult status. He is dependent on other people or circumstances to make his adjustments. When forced to make his own decisions under adverse circumstances there is present a fear of failure of making the accepted decision. Working consciously or unconsciously under one of the most powerful, if not the most powerful emotion, he wavers in his decisions and finally escapes into a juvenile or infantile emotional status, where the burden of life is carried by others. He may escape completely with a psychosis in which his fears become rampant or in which he realizes security through dependence on others or with ideas of grandeur and power, dreams which are present in all abnormal personalities, but which do not become evident until the stress of life has become too great or until they are released by suggestion. Suggestibility is an important component of the neurotic, being most acute in the hysterical type.

Invalidism is one type of escape since it excuses the individual from adult activities and presents to him the care and attention of others, relieving him from the stress of normal life. A hazardous position gives the in-

herent neurotic individual a chance for a logical escape and he will accept it when conflict arises in any phase of his life. If he is ignorant of the hazard a chance remark may precipitate the neurosis, or the occurrence of an actual pathological case may cause a hysterical imitation.

The neurotic really feels that he is ill and is indeed incapacitated to as great an extent as a person suffering from the disease entity. He is just as much entitled to compensation or financial relief. These occupational neuroses may be classified according to Davidson as to:

1. "*Fright and Shock Neuroses.*" These are due to nervousness or continual fear of working under more or less dangerous situations.

2. "*Suggestion Neuroses.*" These conditions follow suggestions unintentionally made by the doctors, nurses or others during the course of examination or in general conversation.

3. "*Neuroses on a Constitutional Basis.*" These are put in a separate group in spite of the fact that there is some constitutional tendency present in all people who suffer from a neurosis of any type. However, there is a certain percentage who develop a neurosis on such a very slight provocation that they may be classified separately.

4. "*A Pure Compensation Neurosis*" in which the patient's desire causes a conflict because of the wish for sympathy and an income without continuing work which to him is unpleasant.

5. "*Neurosis as an Escape Mechanism.*" In these cases the situation serves as a means of an escape from an unhappy status which is often entirely unrelated to the occupation.

6. "*Simple Occupational Spasm,*" which is mechanical in character, one type of which is familiar to all as "writer's cramp." This condition is distinct from malingering and it will be noticed that these people are incapacitated at all times even when they feel that they are alone. It often happens that symptoms disappear after legal settlement, this being based on the fact that one portion of the conflict is removed. For this reason, it is always advisable after a diagnosis has been made not to continue payments on a

weekly or monthly basis but to make the award in a single sum. Those which are caused by a desire to escape from some conflict unrelated with the occupation are cured with difficulty. Those which are caused by suggestion react quite readily to treatment. Treatment consists in a thorough examination without undue haste, since the neurotic individual quickly senses when the examination is not complete and his physical complaints become more firmly fixed. The physician must be sincerely interested and he must never intimate to the patient that his symptoms are not real and worthy of time and attention. He should carefully explain the nervous basis of the symptoms. Needless to say, all physical pathology should be corrected. Any outside discord should be removed whenever possible. Psychotherapy should be introduced immediately, all forms of suggestion being used. Small personal problems should be adjusted and the patient's symptoms should be explained to him carefully. He should be re-educated to face the problems of life and taught to adopt an adult attitude and learn to depend upon himself. To accuse him of malingering is not only unfair but will fix the symptoms.

Having discussed the type of individuals as well as their reactions, I will continue by describing the neurological and mental symptoms of a few industrial poisons, at the same time leaving the description of the chemicals and their uses in industry to others on the program who are very much better qualified, since I will confess that my experience is limited.

All of the heavy metals are very poisonous, but only lead, mercury, thallium and manganese are of practical importance as the cause of nervous symptoms, at least as regards our present knowledge. Why these are more dangerous is not determined. Their solubility in lipoids and fatty acids is probably important. Of the chemicals producing polyneuritis, lead and arsenic may be grouped together since this condition results, at least in the general mind, quite frequently. The wrist drop in lead is known by all medi-

cal students, although statistics have proved that it is not as common as supposed.

Acute lead poisoning is rare. The picture of the condition may present a meningo-encephalitis with a peri-vascular collection of cells, microscopical hemorrhage, hyperplasia of the vascular endothelium and areas of degeneration. Symptomatically, there is present a disturbance of consciousness, with convulsions. In some cases, retarded action may occur with gait disturbances. This accident is seen rarely and is the result of the consumption of large doses.

Lead, like most heavy metals, is a cumulative poison. (The sulphates, sulphides and iodides of lead are the least important). The storage of lead in the body follows the same course as calcium, and it has a marked affinity for the bones where it can be demonstrated roentgenologically. It is eliminated through the kidneys, bowels and liver. In the last few years it has been thought that lead is the cause of some of the obscure symptoms found in children. In a section of Australia the frequency of the condition was found to be due to a certain type of outside paint which was being used. Climatic conditions play a role in its frequency, since the drying and chipping of paints may result in a certain amount of inhalation. In ancient Grecian times it has been determined that the condition was possibly due to the use of lead cooking utensils. It is entirely possible that these people suffering from lead poisoning may have been close to the tolerance point before starting in the industry or may be receiving additional doses of the toxic substance from their life outside of the industry. Because of the vagueness of the symptoms and due to the fact there seems to again be a slight increase in the number of cases, it is important that the condition should be looked for in all undiagnosed neurological, and internal conditions. The frequency with which lead is found in abnormal amounts in multiple sclerosis is arousing interest in the medical profession at this time.

Although lead neuritis has been considered as the classical symptom it is, as a matter of fact, quite rare and not seen frequently at the present date and is of debatable diagnostic value. When it does occur the exten-

sor muscles, innervated by the radialis nerve are earlier and more frequently involved. It seems to be purely a motor lesion, but there is some question as to the location of the pathology—whether it is in the anterior horns, the peripheral nerves, the muscle tissue, or whether it is due to vascular change. Other irregular types of paralysis may occur, at times being caused by encephalitis. The classic signs of blue line in the gums and basophilic stippling are not constant to lead, being found in intoxication by bismuth and others. Basophilic stippling cannot be considered as of pathognomonic importance unless there are over 250 stippled cells to 1,000,000, while 1,000 stippled cells indicates poisoning definitely. The presence of lead in the urine, blood and other body fluids is *not* diagnostic, as there is a certain amount present in nearly all people due to almost daily contact, unless it is present in large quantities.

The most serious condition which occurs in the sub-acute and chronic types is that of an encephalopathy which gives the symptoms of encephalitis. It is possible vascular in character but no definite pathology has been discovered. Some authorities believe that the metal tends to cause arteriosclerosis. The symptoms start with headache, insomnia, tremors, dizziness, poor memory and lethargy. Convulsive seizures may be prominent, and a lead epilepsy may occur. There may be present such a variety of symptoms, as lead amaurosis, temporary paralysis, hemianopsias, aphasia, apraxias and sensibility disturbances. Following any of this variety of symptoms a psychosis may occur which is extremely varied in character, resembling arteriosclerotic insanity, mania, clouded epileptic states, catatonic dementia praecox, or even general paresis. (Some authorities think that the Wassermann may be positive in cases of lead intoxicants.) There may be present muscular excitation with vivid, usually visionary hallucinations. The condition may improve or progress to a chronic state with mental deterioration. Lesions in the nuclear areas or neuritis process may involve the eyes, larynx and the tongue.

Lead produces one of the most difficult industrial problems and for this reason the

literature abounds in articles regarding the subject. It is a metal with which people are in constant contact. There are no definite diagnostic symptoms which are pathognomonic for lead intoxication. The laboratory gives us no help except in the quantitative analysis of the body fluids and examination of the blood. Since what may be considered the normal amount of lead varies in different individuals, many cases of neurasthenia may be diagnosed as lead poisoning.

I do not know whether complete laboratory and neurological examinations are made on employees before they start working in lead or not, but this work has probably been done. The treatment consists of two steps: a period of fixation in the bone during the acute stages; and a period of discharge as the patient becomes symptomless.

The first step consists of feeding a high calcium diet, the giving of calcium lactate by mouth and calcium gluconate in a hypotonic glucose solution intravenously. Magnesium sulphate taken frequently will relieve colic. For the second step, the period of elimination, potassium iodide is given in combination with an acid diet. Some authorities give parathyroid extract, increasing the dose gradually from 20 to 60 units. Sodium thio sulphate has been used intravenously in five-grain doses, increased gradually to 28-grain. Where paralysis occurs massage and passive movement is important to prevent atrophy of the muscles.

In the *chronic mercurial poisonings* there seems to be present a constitutional hypersensitivity. The cases are seldom seen today, although formerly chronic poisoning was quite frequent. It, at times, occurs in medicine as the result of anti-syphilitic treatment. It seems to attack all body tissues and forms a combination with nucleins.

Symptomatically, following a period of pallor, anemia, diarrhoea and kidney symptoms, there is a complaint of headache, poor sleep, irritability and anxiety. More rarely there may be a mercurial extensor muscular weakness. There is a tendency towards cerebellar involvement, with a typical gait and writing disturbances. Tremors of a paralysis agitans type may be present, with coarse contractions and jerks often accom-

panied by fine tremors. Mental derangement and erethism may occur. M. A. Kozakevich investigated 133 workers in a mercurial plant in Moscow. He found an enlarged thyroid in 57.3%, with characteristic complaints of thyrotoxicosis. The onset was that of a vasomotor neurosis which gradually developed into hyperthyroidism. Salts of iodine and bromine were recommended thereapeutically because of the readiness with which they combined with mercury.

Thallium, which does not seem to be as common a poison as the barium salts, evinces itself by a polyneuritis, with muscular and articular pain and with some cerebral symptoms.

Manganese is an important industrial poisoning because of the hopelessness of the prognosis. It seems to have a predilection for the central nervous system with pyramidal signs. Thalamic symptoms may occur as well as changes in the brain stem, particularly in the area of the lenticular nucleus.

The initial sign is often a disturbance of potency, which is probably due to a cord lesion. The initial symptoms start after a long period of contact. There is present a general debility with languor, pain in the back and numbness of the feet. There appears a tremor of the head, tongue and hands with a later disturbance of locomotion with a characteristic uncertain stamping gait in which "the patient hurries after his own steps to avoid falling, finds difficulty in stopping and avoiding obstacles." The tremors are characteristic of those found in *paralysis agitans*. The voice is low, whispering and flat with indistinct scanning. Forced laughter and weeping occur without emotional accompaniment and there is an eventual lowering of intelligence. The condition does not react to treatment but may become stationary with the absence of exposure.

In the chemicals described it is noted that the toxic symptoms are predominately an involvement of the motor components of the central nervous system with, at times, a diffuse encephalitis. The symptoms are slow to develop and the elimination is slow with a tendency for the symptoms to persist for a long period of time. Intoxicating symptoms involving the higher centers are not frequent-

ly found. Continued exposure is necessary, and careful observation of the employees should eliminate a great percentage of poisonings.

Of the more intoxicating chemicals the cerebral symptoms predominate, while the motor symptoms are secondary. The onset occurs after only short exposure to a toxic substance, and the elimination is rapid, with a rapid digression of symptoms on removal from the agent. Some of them have shown a tendency to be habit-forming, particularly in the case of trichlorethylene. Here there occurs a singing in the ear with dullness of vision and hearing, accompanied by an inability to move, although consciousness may remain. Euphoria is present, which is followed by a desire to sleep, of a pleasant nature. Unconsciousness and death may occur. Characteristic of the condition is a tendency towards anesthesia of all parts supplied by the trigeminal nerve. Inhaling of benzene and to a lesser extent toluene is characterized by hysteria and excitement, with headaches and giddiness, and with a feeling of being intoxicated and similar signs. There may be present a memory defect following the occasion.

Benzol, as well as toluol, xylene, and naphtha produce pictures resembling alcoholic intoxication. Of these, *benzol* is the most important and the accidents due to it most frequently seen. The symptoms in the acute, mild cases consist of headache, giddiness, gastro-intestinal disturbances, weakness, mental dullness, irritability or euphoria. There may be an apprehension of death; visual disturbances may occur. As the condition becomes more serious tremors may be present, convulsions and coma may result. The tremors may be muscular in character, described as shivering, or there may be trembling with clonic and tonic spasms. In the most severe cases there may be hallucinations or delirium, or, eventually, prolonged unconsciousness. Neurologically, various forms of neuritis and lesions affecting the dorsal column and the pyramidal tract may occur, causing paresthesias, anesthesias, impaired locomotion and trophic disturbances. The symptoms of this poison are so acute that it

has been attempted to substitute with others of the group which are less toxic.

Nitro-benzine has been known to produce a hemi-anesthesia with small circumscribed hyperesthetic areas; these symptoms appear to be of a hysterical nature, as it is difficult to explain them. The nerve trunks become sensitive and there is muscular tenderness which seems to be more prominent in the upper extremity. The fingers have been described as numb and the hands feel as if they were gloved. On walking, the patient may complain that he feels as if he were walking on sand or snow. There is at times concentric contraction of the fields of vision with a mild blurring of the edges of the discs. This symptom varies with the seriousness of the disease process. It is a narcotic but also, and frequently, produces convulsions. In the chronic poisoning, peripheral neuritis may occur. *Benzine* and *naphtha* are intoxicating chemicals, inhalation of which produces excitation, hysteria, headache and the feeling of being "drunk." There is often a heavy sleep of the type found in alcoholic intoxication.

Methyl alcohol is extremely poisonous and has a cumulative effect. Schwartzman describes a case of an engineer who after working in a plant for three months developed a condition of excitement, double vision, nystagmus, ataxia and anomalous reflexes. On being removed from the plant he became symptomless but on returning to work developed a paralysis of the facialis and abducens nerve and a decrease in vision. Methyl alcohol is destroyed in the system only with difficulty. In the cases of acute poisoning there are abdominal pains accompanied by general weakness, nausea and vomiting, micturition is present, blindness which is complete and may become permanent, is a fairly frequent symptom. In the chronic cases, there are present hyperesthesia and paresthesia of the hands with pain on pressure over the nerve trunks. There is pain in the joints, which is distinctly noted on moving the head. Symptoms of a peripheral neuritis occur. Complete blindness follows in a few days, in which the pupils are dilated and sluggish but may or may not react to light and convergence. Occasionally a temporarily

paralysis of the extra-ocular muscles is noted.

Petroleum is acute in its action, produces a feeling of exhilaration, followed by a feeling of heaviness with vertigo and loss of consciousness as in an anaesthetic sleep. At times there is definite inebriation with shouting and reeling. There is loss of memory for the occurrence. Pupils are contracted. The treatment is one of symptomatic stimulation and strong hot tea.

Pyridine has been known to give definite mental symptoms resembling an encephalitis. There has been present a loss of consciousness, facial nerve paralysis, attacks of screaming, nystagmus and inequality of pupils and disturbance of gait. Recovery occurred after removal from the agent.

Arsenic does not have a predilection for the nervous system. However, there may be present a peripheral neuritis, with a possibility of loss of function. The lower extremities are involved more frequently than the upper. It is often multiple in character but rarely involves the trunk. There is at first a paralysis of sensation followed by a motor paralysis. The condition is usually symmetrical and shows a predilection for the extensors of the foot. In the final stages of arsenical poisoning there may be mental apathy, but the cerebral symptoms are not important. It closely resembles lead poisoning in some aspects, but differs from it by the absence of the blue line of the gums and absence of constipation, involvement of the flexor muscles at times, and the fact that the lower extremities are more generally and frequently involved. The elimination is hastened by potassium iodide. Severe cases of neuritis may require analgesics; later, massage and electrical treatments are necessary to prevent atrophy.

Aniline does not have any predilection for the central nervous system, but there may be present slight insomnia, headache and dizziness. There is at times a loss of memory. Its symptoms are that of an intoxicant and the patient shows loquacity with slow labored speech. He may have a reeling, unsteady gait. In the more chronic cases there is general debility with loss of sleep and disturbances of sensibility and motility and spasmodic muscular pains.

Carbon disulphide, used in the making of artificial silk, seems to have a definite predilection for the central nervous system. The symptoms which it gives are varied and both the brain and spinal cord are involved. There may be symptoms which definitely resemble *paralysis agitans*, or a peripheral neuritis may result. The symptoms are rapid in onset and frequently difficult to differentiate from hysteria. The acute symptoms are those of marked stupefaction, the feeling of intoxication with flaccidity of the extremities. There is an obliteration of all the reflexes and an eventual loss of consciousness due to paralysis of the central nervous system.

The chronic forms show headache and pain in the extremities. There may also be present spasms or fibrillary twitchings. Transient and permanent paralysis may occur, with atrophy. Itching and formication are present, and there is a reduction of the reflexes. There are present areas of anaesthesia and analgesia. Disturbances of vision are common, sometimes transitory in state. Retrobulbar neuritis, choroiditis and central scotoma have been described. Cerebral involvement is marked. There may be present a condition of excitement followed by one of depression. The patient may be irritable and even violent and evince an explosive temper. Early there is hyperstimulation of the sexual instinct followed by an abnormal decline. If the person continues in the atmosphere after several weeks or months of preliminary symptoms, there develops a psychosis characterized often by melancholy, a dreamy manner, and weakness of memory. The mental disease may simulate either an acute mania or *dementia praecox*. The prognosis for recovery is good. These severe types of intoxication occur in only such individuals who have a predilection for the intoxicant.

Carbon monoxide has in some instances shown a predilection for the central nervous system with an eventual feebleness of the psychic functions. There has been described a reduction of visual acuity and sexual potency.

Carbon dioxide produces excitement, followed by loss of consciousness and by inability to move.

Although any chemical may produce secondary effects on the central nervous system, even as any infection may, the majority of them as stated before do not have a special predilection for it. All of the esters have a paralyzing effect on the central nervous system, giving approximately the same picture. Lead, carbon disulphide, benzol, are the chemicals which show a comparatively high percentage of cerebral involvement, resembling many other types of psychoses. Yet psychoses occurring in a plant do not mean that the chemical always is at fault. A case of *dementia praecox* may occur in a toxic atmosphere as well as it can in any other environment. The disease would have occurred no matter where the individual was located and the industry cannot be blamed. It is true that worry over a more or less hazardous position may precipitate a psychosis which has been latent for many years, but it would be radically unfair to hold the industry responsible for the production of the condition.

The treatment of all of these conditions involving the central nervous system may be placed in four categories: namely, removal of the individual from the toxic environment; hastening of elimination of the poison; prevention of muscular atrophy where paralysis is present; and psychotherapy where the condition is of a neurotic type. Preventive work from a psychiatric viewpoint is of the greatest importance. No individual should be employed in a hazardous industry who is not in excellent physical condition, as in such a case there is only an added strain. The plant physicians should be qualified to carry on a detailed neurological examination. This is of great importance at the present time because of the frequency in which abnormal neurological symptoms are found possibly due to mild types of encephalitis or to heredito-syphilitic states in which the Wassermann may remain negative. Routine lead analysis of those working in lead plants before commencing their work might often save difficulty from a diagnostic viewpoint later.

Individuals working under such hazardous conditions should not be employed by means of recommendation alone. Personal interview, fairly prolonged should be carried out by an individual who has some ability to

recognize personality types, so that irregularities can be noted. The plant physician should be so familiar with his employees that he can recognize subtle emotional changes, slight differences in gait or a difficulty in muscular movements. When the physician is able to recognize these on walking through the plant, carefully observing the employees, he will be able to prevent chronic disturbances by early removal of the worker from the atmosphere. Individuals, showing evidence of emotional disturbance, should be removed from the hazardous position until their problems have been adjusted, to avoid their grasping at occupation as a means of escape.

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Zinc Sulfate Prophylaxis in Poliomyelitis

E. W. Schultz and L. P. Gebhardt, Stanford Univ., Calif. (*Journal A.M.A.*, June 26, 1937), have tested the protective value of forty chemical agents against the virus of poliomyelitis. They made a more exhaustive study of zinc sulfate than they have of the others. More than 240 animals have now been treated intranasally with different concentrations of zinc sulfate in solution, administered a varying number of times and at different intervals of time, and the resistance of these test animals has been compared with a total of nearly 300 untreated controls. They find that two or three successive daily intranasal sprays with a 1 per cent solution of zinc sulfate in physiologic solution of sodium chloride will generally protect all, or nearly all, of the animals so treated against virus administered one month after the treatments have been applied. Many of the treated ani-

mals have survived repeated virus instillations for two and even three months, following one or more intranasal applications of the zinc sulfate solution. The remarkable protection yielded by this simple and relatively nontoxic agent in animals suggests the desirability of carrying the investigation over to man. They suggest the following procedure in carrying this investigation over to man: 1. The use of a solution containing 1 per cent zinc sulfate, 0.5 per cent sodium chloride and 1 per cent local anesthetic (procaine) as suggested. 2. The solution should be prepared with U. S. P. zinc sulfate, U. S. P. sodium chloride and distilled water. 3. It should be applied at least once every two weeks during times when the risk of infection is great. A more desirable procedure would be to apply the agent on two or three successive days and once every two weeks thereafter. 4. It should be applied with an atomizer equipped with a suitable tip and in accordance with the technic described by Dr. Max Peet in this issue of *The Journal*. 5. The prophylactic zinc sulfate mixture should be administered under the auspices and supervision of national, state or local organizations, aided by members of the medical profession who have been instructed in the special technic that should be followed. 6. A record should be kept in the local health office of all persons treated. 7. Those who supervise the treatments should be alert to any possible side actions or important harmful local or general effects. Although there is no reason to believe that zinc sulfate, in the small amounts required to cover the olfactory area, would produce any undesirable or harmful effects, either local or general, idiosyncrasies should be kept in mind. 8. Any objectionable or undesirable effects from the treatment should be reported to the local health officer, who should enter the information on the card and take such steps as may seem desirable. 9. In measuring the results later, only those persons who have received adequate treatments under competent supervision and for whom there is a record of treatment on file should be considered as having received valid treatments. Claims of self-administration of the solution should not be regarded as valid.

EDITORIAL

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PSYCHIATRIC TRAINING FOR INTERNES

At the annual meeting of the New Castle County Medical Society it was announced to the medical profession that the State Board of Trustees of the Delaware State Hospital had approved of the establishment of a special training course of one month's duration, in residence, in mental and nervous diseases for internes of approved general hospitals. It is thought that this course can be started in the fall of this year. Internes coming from outstanding medical schools have sufficient theoretical knowledge of the psychoses and neurological diseases taught to them by the best men in the country. Their practical experience, which implies continual contact rather

than mere demonstration is, at the present time, inadequate enough to give the student the knowledge which he needs. The neuroses cannot be thoroughly understood without a clear working knowledge of the psychoses. It is now appreciated that the medical student and interne should be stimulated to take a greater interest in mental and nervous problems. It is now generally recognized that a large percentage of general practice is based on mental aberrations, and that many physicians lose not only patients but also income because of the lack of training in mental diseases.

Any physician should be able to diagnose and successfully treat the ordinary types of neuroses, and there are many patients suffering and handicapped, often going from physician to physician seeking for relief. They are often dismissed with the statement that there is nothing wrong, that they are only nervous. Yet they can be relieved and they can become useful citizens. Moreover, the physician obtains not only monetary gain but also a great amount of satisfaction from the knowledge that he has cured the individual. But until he understands the mechanisms involved and the various technique used he cannot succeed.

The physician is also supposed to understand psychoses in all of their phases. He should be able to recognize the prepsychotic states and be able to prevent, at times, the development of an actual psychosis. He should be able to inform his patients and the public about mental diseases.

The nursing profession has realized the importance of this knowledge. Since 1931, the Delaware Hospital has given their students special training in psychiatry by sending them to the Delaware State Hospital for a two months' practical training. The Wilmington General Hospital and other hospitals

in the state have sent students to the State Hospital for special training when such could be arranged. The State Board of Trustees of the Delaware State Hospital has now arranged to offer a special course to student nurses of all hospitals in the state.

It must be emphasized that all connected with the medical profession should be adequately trained in the knowledge of nervous and mental diseases. The recent action of the Board makes it possible now for the internes of all Delaware hospitals to secure, in residence, a brief but comprehensive course in these diseases.

The annual session of the A. M. A. has come and gone. The record-breaking registration was 9,764, to which Delaware contributed its full share. This state, however, was not represented on the program, no Delaware physician contributing either a paper or a discussion.

Dr. Irvin Abell, of Louisville, was elected president-elect; Dr. Junius B. Harris, of Sacramento, Vice-President; Dr. Olin West, of Chicago, Secretary; Dr. Herman L. Kretschmer, of Chicago, Treasurer; Dr. Nathan B. Van Etten, of New York, Speaker of the House of Delegates; and Dr. H. H. Shanders, of Nashville, Vice-Speaker. San Francisco was chosen as the convention city in 1938, the date to be announced later.

The New Castle County Medical Society held its annual outing at the State Hospital, at Farnhurst, on June 15th. The facilities there for entertaining a throng of over a hundred physicians, rain or shine, are unsurpassed in the state. The usual good time was had by all. The President, Dr. Lewis Booker, of New Castle, presided at the dinner. The annual (?) visitation from J. Pluv. caused merely a strange interlude, though it did break up what started out to be a hot game of baseball.

Wilmington is losing one of its promising young surgeons this summer, Dr. James M. Winfield (U. of P., 1926) is removing to Detroit, where he has accepted the post of associate professor of surgery at the newly-organized Wayne Medical University. His old friends wish him success in his new field.

Three corrections should be made in the discussion of Dr. Montgomery's paper, published in the June issue. On page 130, column 2, fourth line from bottom, "Godlee" should be "Gauss." On page 131, column 1, line 9, "Pollack" should be "Polak." On page 131, column 2, line 6, "Euphoria" should be "Eutocia."

The J. B. Lippincott Company sends us Vol. 1, No. 1, of their new monthly *Digest of Treatment*. This is an easily read, non-advertising digest, prepared by a competent editorial staff, and brings brief articles culled from over 200 medical journals. The original issue contains 34 titles. Its convenient size ($7\frac{1}{2} \times 5\frac{1}{2}$ inches) makes it fit readily into the average pocket. The subscription price is \$5.00 per annum. We wish the new *Digest* all good luck.

But, sorry to state, there is some bad luck in store for some of our members. The records of the state secretary show that 33 members in New Castle County, 7 in Kent County, and 2 in Sussex County, or a total of 42 members in the state, have been in arrears with their dues since April 1st. They are not entitled to receive THE JOURNAL, but their copies have been forwarded just as though they were in good standing. However, this (July) issue is the last that can be forwarded them, unless we receive word from their county treasurers, on or before August 10th, that they have reinstated themselves by the payment of their delinquent dues. This we urge that they do, promptly. Also, until they do pay, they are not entitled to medical defense by the Society, which is something to think about these days!

MISCELLANEOUS

Radium Film

The closely guarded processes of radium manufacture were portrayed to the public for the first time in moving pictures in an exclusive reel shown at theatres throughout the country during the week of July 8th.

The film depicts the completion of Canada's production of her first ounce of radium—the only radium being mined and refined in the Western Hemisphere today. Since the discovery of radium ore in the Canadian Arctic seven years ago, the world's second producing radium mine—the Eldorado on Great Bear Lake—has been opened, and the world's only complete radium refinery established—at Port Hope, Ontario, 3,500 miles from the mine. The only existing radium mine is in the Belgian Congo.

It took six years—and approximately 15,000 tons of radium ore—to produce this total of one ounce of radium at the Eldorado Refinery, which is today the world's greatest radium source. An ounce of the precious metal is valued at \$850,000. Today production at the refinery is at the rate of 3½ grams—or one-eighth of an ounce—a month.

High spots of the refining processes, heretofore jealously guarded, are pictured for the first time. Mme. Curie's discovery for the isolation of radium—the evaporation process—is used as the final step in the complex treatment.

The first step in the process is to remove pitchblends. With the feeding of the ore into the crushers begins the painstaking task of extracting the radium and uranium compounds. Washing and a series of chemical treatments remove all the impurities and separate the compounds until finally the radium crystals are all that remain.

The metal is kept in tiny tubes, which are stored in a lead safe for protection against the penetrating gamma rays, awaiting shipment to hospitals and cancer clinics.

Notables shown attending the ceremonies in observance of this landmark include the rarely photographed discoverer of insulin, Sir Frederick Banting; Gilbert LaBine of Eldorado, Canadian prospector who discovered the Canadian radium lode; and On-

tario's Lieutenant-Governor, Dr. Herbert Bruce, celebrated surgeon.

The discovery and establishment of the Canadian mine was celebrated as an inestimable boon to hospitals and cancer victims throughout the world. Radium costs have been cut to one-third their former level since its inception—falling from \$75,000 per gram to today's price of \$25,000 per gram.

American Board of Obstetrics and Gynecology

The next written examination and review of case histories of Group B applicants by the American Board of Obstetrics and Gynecology will be held in various cities in the United States and Canada on Saturday, November 6, 1937.

The next general examination for all candidates (Groups A and B) will be held in San Francisco, Cal., on June 13 and 14, 1938, immediately prior to the American Medical Association meeting.

Application blanks and booklets of information may be obtained from Dr. Paul Titus, secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania. Applications for these examinations must be filed in the secretary's office not later than sixty days prior to the scheduled dates of examination.

The Chemical Prophylaxis For Poliomyelitis

Max M. Peet, Dean H. Echols and Harry J. Richter, Ann Arbor, Mich. (*Journal A. M. A.*, June 26, 1937), state that direct nasal examination after spraying a large number of children with methylene blue showed that in practically all instances the solution did not go above the middle turbinate if an ordinary atomizer was used with the tip of the spray introduced only slightly within the nostril. From their experiments in which radiopaque substances and certain dyes were used, it is evident that the spray must be applied directly to the olfactory area. Such application can be made under direct vision with an atomizer with a long, narrow metal tip. Nasal douching with the head in the Proetz position might be as effective in some children as a properly applied spray. The Proetz position with instillation of zinc sulfate by dropper may of necessity be used when small children

are so uncooperative that insertion of the nasal spray tip is impossible. Under these circumstances the pontocaine should be omitted. The child should be kept in the headdown position for about two minutes. The following method of application is recommended: The subject is seated and an attendant holds the head tilted backward about 45 degrees. A speculum is introduced into the naris and under direct vision the spray tip is inserted upward along the septum until it is definitely past the middle turbinate. If it impinges on the roof of the nose it is slightly withdrawn. The bulb is squeezed the number of times required to introduce 1 cc. of solution. A similar procedure is then carried out on the opposite side of the nose. Loss of the olfactory sense is thus obtained. Only slight discomfort is felt when the spray tip is passed through the narrow cleft between the middle turbinate and the septum or when it touches the roof of the nose. If the nasal passage is found occluded on direct inspection the nasal mucous membrane should be shrunken by the application of ephedrine or benzedrine inhalant preliminary to the insertion of the spray tip. A power sprayer can be used instead of the hand bulb but should not deliver more than a few pounds of pressure. The quantity delivered by the power sprayer should be definitely determined and not more than 1 cc. of the solution introduced into each side of the nose. According to the experimental work of Schultz, a single spray of zinc sulfate and pontocaine is sufficient to protect animals for at least two weeks. However, in their experiments on man the authors have repeated this spray for three successive days. Such intensive spraying, while perhaps not necessary, does give greater assurance of complete coverage, since on the first application of the spray there may be small areas covered by tenacious secretions which conceivably would not be present on the same areas on succeeding days. Possibly in an extensive field application of the zinc sulfate for the prevention of poliomyelitis a single spray repeated at intervals of two weeks would be sufficient; however, they recommend daily spraying for three consecutive days, then single sprays at intervals of two weeks. To offer a child the only protection now known for the prevention

of infantile paralysis, the spray solution must be actually applied to the olfactory area, and this can be accomplished only under direct observation with proper equipment and by one trained in this particular technic.

Roentgenographic Diagnosis of Quintuple Pregnancy

Aside from the infrequent occurrence of quintuple pregnancy, the chief interest in the case that E. C. Hamblen, R. D. Baker and G. D. Dericuex, Durham, N. C. (*Journal A. M. A.*, July 3, 1937), discuss lies in the fact that the diagnosis was made from the roentgenogram and that the circumstances allowed a complete anatomic study of the fetuses, placenta and membranes. It seems reasonable to assume that the hydramnios and the premature partial separation of the placenta, both of which conditions necessitated interruption of the pregnancy, were associated with the presence of an anencephalic monster. The hematoma was related to the attachment of the monster. The short cord of this monster was no doubt a factor in this hemorrhage, the mechanism of this being, perhaps, rupture or detachment. The chief discussion provoked by the anatomic studies is in regard to whether this pregnancy was uniovular or multiovular. When a single placenta occurs in a multiple pregnancy, several criteria have been laid down to determine whether the pregnancy is derived from a single ovum or not. Among the more important of these are the presence of a single chorion, the anastomosis of blood vessels among the various cord attachments and the similarity of fetuses with regard to sex and peculiarities of structure. The authors' case apparently exhibited a single placenta, a single chorion and anastomoses between the various cord attachments. All the fetuses were of the same sex. The quintuplets were in a comparatively late stage of development (five months) and hence the single chorion cannot be thought to be proof of identity of the fetuses. One yolk sac was apparently found and possibly three, but none seemed to be common to two or more fetuses. Since no examination of the ovaries of the patient was possible, evidence derived from the number of corpora lutea was not available. The pregnancy may have well been

derived from a single ovum; but a definite statement cannot be made on this point.

Artificial Fever Treatment of Chorea

During the last two years Clarke H. Barnacle, Jack R. Ewalt and Franklin G. Ebaugh, Denver (*Journal A. M. A.*, July 10, 1937), treated forty-five cases of Sydenham's chorea with the Kettering hypertherm. Thirty-seven patients recovered and eight were markedly improved. They have attempted to follow these patients closely and have succeeded in checking forty of the original number. There have been four recurrences; three of these patients have received a second course of fever. An additional patient showed occasional twitching. Thirty-six patients who were followed were cured. Of this number three patients were considered markedly improved under the immediate results. Four patients were classed markedly improved in the recent follow-up study. The average number of treatments was 12.6 and the total hours of fever 32.9. The patients were under treatment an average period of 22.3 days. It is interesting to note that a greater number of heatings were needed in the severe type, while the moderate and mild cases required successively less fever. The presence of carditis, the history of previous attacks and the duration of symptoms prior to fever bore no relationship to the number of heatings required. The incidence of carditis was 42.2 per cent; that is, nineteen cases. Immediately following pyretotherapy seven patients with carditis had recovered, eight were improved and four were unchanged. A patient with pericardial effusion responded satisfactorily to fever and the effusion disappeared. Twelve of the nineteen cases of carditis have been carefully checked in recent follow-up examinations. Six patients were cured and are on a full activity program, while six were improved. The fact that thirty-six of the forty patients followed in this two-year study are found to be cured indicates that pyretotherapy is of lasting benefit. However, further study may prove that the results obtained by this therapeutic method are not sustained. Short treatments of two and one-half hours' duration at temperatures of from 105 to 105.4 F. (rectal) are

most effective if given daily. Longer treatments are necessarily more fatiguing, result in loss of weight, and are dangerous in the face of a complicating carditis. Although fewer fever sessions may be given if the duration of the temperature is longer, the actual hours of fever are approximately the same in the two instances. In the 562 treatments administered to the forty-five chorea patients there were only twelve deliriums. The facts that the heatings are short, that sedatives are but rarely necessary and that the children are very comfortable in the Kettering hypertherm may explain this low incidence. The nurse technician usually reads stories to the children and carries them along in conversations about their daily activity. Children are rarely bothered with postfebrile nausea and retain 2 liters of salinized water without difficulty.

Artificial Fever Therapy of Gonorrhea

E. H. Parsons, P. N. Bowman and D. E. Plummer, Denver (*Journal A. M. A.*, July 3, 1937), compared a series of gonorrhea cases in the male treated with artificial fever therapy with a similar series treated by more time-honored methods. The clinical material available for this study consisted of eighty-seven young men, all except one of whom were white. All were between the ages of 18 and 49. Forty-three were treated with fever therapy and forty-four by the usual means. The number of cures in each group of acute gonorrhea was the same, 72.2 per cent, but the fever-treated cases showed no residuals (such as chronic prostatitis) and accomplished the result in approximately one-third the time required in the control group. The control group were under treatment a total of 594 days longer than were the fever-treated group. The number of cured cases of acute prostatitis and complications in the fever-treated group is significantly greater than is the case of the control group. The time required for the treatment of the fever-treated group was approximately one-fourth that necessary in the control group. Cases of acute prostatitis with urinary retention and severe pain, in the fever-treated group, were uniformly rendered asymptomatic in one treat-

ment. In the control group less than one-third of the cases of chronic prostatitis and complications were classed as cured, whereas the fever-treated group showed definite cures in all but two cases. These last two cases were twelve and fifteen years, respectively, in duration. The time required for treatment was approximately four times as long in the control group as in the fever-treated group.

American Board of Surgery

In answer to the widespread demand for an agency which will attempt to certify competent surgeons the American Board of Surgery has recently been organized. This board is a member of the Advisory Board of Medical Specialties which includes all of the boards of certification for the different medical specialties which have been already organized. Since boards were in existence for the certification of practitioners of some of the surgical specialties such as ophthalmology, otolaryngology, obstetrics and gynecology, genito-urinary surgery and orthopedic surgery it is expected that the American Board of Surgery will be responsible for the certification of general surgeons as well as those practicing in the remaining specialized subdivisions of surgery.

Acting upon the invitation of the American Surgical Association the following surgical societies cooperated in the creation of the American Board of Surgery: the American Surgical Association, the Surgical Section of the American Medical Association, the American College of Surgeons, the Southern Surgical Association, the Western Surgical Association, the Pacific Coast Surgical Association and the New England Surgical Society. The first three of these bodies which are national in scope have three representatives on the board. All of the other societies have one representative each. The representatives of the cooperating societies are nominated by the society which they represent and upon approval of the board shall become members of it. The term of membership on the board will be six years. The following were chosen to represent the cooperating societies:

Evarts A. Graham, Arthur W. Elting, Allen O. Whipple, representing the American Surgical Association; Donald Guthrie, Erwin R. Schmidt, Harvey B. Stone, representing the American College of Surgeons; Fred W. Rankin, Howard M. Clute, J. Stewart Rodman, representing the Surgical Section of the American Medical Association; Philemon E. Truesdale, representing the New England Surgical Society; Thomas Orr, representing the Western Surgical Association; Robert Payne, representing the Southern Surgical Association; Thomas Joyce, representing the Pacific Coast Surgical Association.

The following officers were elected: Chairman, Dr. Evarts A. Graham; vice-chairman, Dr. Allen O. Whipple; secretary-treasurer, Dr. J. Stewart Rodman.

Two groups of candidates are recognized for qualification by the board:

(a) Those who have already amply demonstrated their fitness as trained specialists in surgery.

(b) Those who, having met the general and special requirements exacted by the board, suc-

cessfully pass its qualifying examination.

The first of these groups, the Founders Group, upon invitation by the board will be chosen from the following:

(1) Professors and associate professors of surgery in approved medical schools in the United States and Canada.

(2) Those who for fifteen years prior to the board's organization have limited their practice to surgery.

(3) Members of the American Surgical Association, the Southern Surgical Association, the Western Surgical Association, the Pacific Coast Surgical Association and the New England Surgical Society, who are in good standing January 9, 1937.

All applications for the Founders Group must be received within two years of the board's organization, January 9, 1937. No candidates for the Founders Group will be considered after that date.

Requirements for those to be qualified by examination will be as follows:

(1) Graduation from a medical school of the United States or Canada recognized by the Council on Medical Education and Hospitals of the A. M. A. or graduation from an approved foreign school.

(2) Completion of an internship of not less than one year in a hospital approved by the same Council, or its equivalent in the opinion of the board.

(3) Special Training. A further period of graduate work of not less than three years devoted to surgery taken in a recognized graduate school of medicine or in a hospital or under the sponsorship accredited by the American Board of Surgery for the training of surgeons. This period of special training shall be of such character that the relation of the basic sciences of anatomy, physiology, pathology, bacteriology and biochemistry is emphasized. Knowledge of these sciences as applied to clinical surgery will be required in the examination. Adequate operative experience in which the candidate has assumed the whole responsibility will be required. An additional period of not less than two years of study or practice in surgery.

(4) The candidate must present to the board sufficient evidence of good moral character as to justify it in the belief that he will not engage in fee splitting and other dishonest practices.

It is expected that the board, with the assistance and cooperation of the American Medical Association and the American College of Surgeons, will be able to increase the facilities which now exist for the adequate training of young surgeons by means of residencies, fellowships, etc., in suitable hospitals.

The above requirements, especially those referring to surgical training, are subject to change from time to time as the existing opportunities for training in this field of specialization may be broadened.

The qualifying examination will be divided into two parts: Part 1, written, and Part 2, clinical, bedside and practical. The written part, Part 1, will concern itself with general surgical problems and with the clinical application of the basic sciences of surgery to these problems. This examination will cover a period of three hours each and will be held simultaneously in as many centers as are necessary to accommodate the number of applicants who are eligible. Part 2, is entirely oral and will also concern itself, in the main, with general surgery and, as stated for Part 1, clinical application of the basic sciences to the clinical

problem represented. In addition to this, in Part 2, an examination will be given to test the candidate's knowledge of operative surgery, x-ray plate interpretation and the principles and application of surgical anesthesia. This examination will be held in as many centers as the board may determine necessary to accommodate the eligible candidates. Reexaminations will be allowed providing one year shall elapse between examinations.

The fee for Group A, the Founders Group, shall be \$25. The fee for Group B shall be \$75, payable as follows: \$5 for registration fee, which shall be returned if the candidate is not accepted for examination; \$20 for Part 1; and \$50 for Part 2. The same fee will be required for each reexamination. Once the candidate has become qualified, he will have no further financial obligation to the board.

This board is a non-profit organization. All fees will be used, after a reasonable amount is set aside for necessary expenses in maintaining its office, conducting examinations, etc., to aid in improving existing opportunities for the training of the surgeon.

A certificate attesting to a candidate's qualifications in surgery after meeting the requirements of the board will be issued, having been signed by its officers.

Any certificate issued by the board shall be subject to revocation by the board at any time in case it shall determine in its sole judgment, that a candidate, who has received a certificate, either was not properly qualified to receive it or has become disqualified since its receipt.

The board will hold its first examination (Part 1, written) on September 20, 1937. All inquiries concerning applications for this examination should be received by the secretary's office promptly.

Requests for booklets of information, application blanks, and other information should be addressed to the secretary, Dr. J. Stewart Rodman, 225 South 15th street, Philadelphia, Penna.

(Editor's Note:—Read "Regimentation in Medicine," by Thomas R. Boggs, M. D., *J. A. M. A.*, June 19, 1937, facing p. 2172.)

OBITUARY

EARL BELL, M. D.

Dr. Earl Bell, 55 years old, of 1701 Bancroft Parkway, who practiced medicine in Wilmington for 25 years, died in the Delaware Hospital on July 8, 1937, following an appendicitis operation. He had been in the hospital since June 30.

Dr. Bell was a member of the American Medical Association, the New Castle County Medical Society, the Medical Society of Delaware, the Delaware Academy of Medicine, and the Masonic Fraternity. He was a member of the University Club of the University of Pennsylvania, and the General Alumni Society and the Phi-Rho Sigma Fraternity.

He was secretary of the Delaware Hospital Association, and also served on the staffs of

the Delaware and the Wilmington General Hospitals.

Dr. Bell was born in Wellsville, Pa., in 1881, and graduated from the high school there. He came to Wilmington and was graduated from Goldey College. Later he studied medicine at Medico-Chirurgical College of Philadelphia, graduating in 1909.

He is survived by his wife, Mrs. Frances B. Bell, three daughters, Virginia, Eleanor and Martha, and a brother, James A. Bell, of Harrisburg, Pa.

Funeral services were held at the home on July 12th, the Rev. Charles W. Clash, rector of Immanuel P. E. Church, officiating. Interment was in Lower Brandywine cemetery.

ELISHA H. F. FARLOW, M. D.

Dr. E. H. Farlow, 78 years old, former mayor of Laurel, died at his home there on July 6, 1937, following an illness of several months.

He was a native of Worcester County, Md., and attended the medical school of the University of Maryland, from which he graduated in 1891. Previous to that time he was a school teacher. He practiced for a time in Whitesville, but moved to Laurel in 1898 where he continued the practice of medicine until his failing health forced him to retire. Until recently he had been a member of the Sussex County Medical Society, the Medical Society of Delaware, and the American Medical Association.

He had been very active in town affairs, being elected mayor in 1923. He served seven consecutive terms.

Dr. Farlow was a Democrat and served a term in the State Senate about 35 years ago.

His wife, Annie Callaway Farlow, whom he married in 1883, survives him, as do four children, Mrs. Mary V. Hearn of Raleigh, N. C., Mrs. Ethel Tunis of Lancaster, Pa., Mrs. Blanche Willey of Philadelphia, and Raymond F. Farlow, of Laurel.

The funeral was held from the home on July 9th, with the Rev. R. Y. Barber, rector of St. Philip's Episcopal Church, officiating. Interment was in Laurel Hill cemetery.

BOOK REVIEWS

Short Wave Diathermy. By Tibor de Cholnoky, M. D., Associate Professor of Surgery, New York Post-Graduate Medical School. Pp. 323, with 38 illustrations. Cloth. Price \$4.00. New York: Columbia University Press, 1937.

The author of this little book deals with the subject with marked fairness and candor. He explains that the clinical results obtained by many workers in this field differ materially in their results and recommendations. The author does not lay claim to fantastic results and to incomplete study, so that for this reason his conclusions, where definitely stated, should be given the greatest consideration. He frankly emphasizes the need of much more study and research in this type of treatment.

Probably the subject of greatest general interest, at the moment, is directed to the elevation of general and local body temperature in treating mental cases. Unfortunately this has not offered the encouragement in the author's hands that is claimed by others. However, with more experience some favorable results may be expected. Fever therapy of syphilis has been under investigation for some years. Recently, electropyrrexia has come to take the place of other forms of artificial fever, with interesting and promising results. The author states, however, that it is too early to give a final opinion as to the possibility of short wave diathermy in general paralysis. Dementia praecox has not made favorable clinical response, in trained hands.

In treating sinus disease competent authorities believe there is derived unquestionable benefit in cases of empyema of the ethmoid sinus, which have proved resistant to every other form of treatment. In cases of chronic sinus disease with mixed infection, short-wave diathermy proves a boon, relieving subjective and objective symptoms. Improvement to the extent of 50 to 75 per cent occurs after 6 to 15 treatments depending upon the severity of the individual case. The foul odor also practically disappears, it is stated.

The Technique of Local Anesthesia. By Arthur E. Hertzler, M. D., Professor of Surgery, University of Kansas. Sixth Edition. Pp. 284, with 142 illustrations. Cloth. Price

\$5.00. St. Louis: C. V. Mosby Company, 1937.

This small but excellent monograph fully covers the subject of local, spinal, paravertebral, splanchnic and transsacral anesthesia. Since the subject matter is approximately standardized, the text is considerably condensed, but with no loss of clarity or completeness. In fact, this condensed diction and the excellent illustrations are what makes this book one of the classics in its field, and one which we are again pleased to recommend.

Physical Diagnosis. By Dan C. Sutton, M. D., Associate Professor of Medicine, Northwestern University. Pp. 495, with 306 illustrations. Cloth. Price, \$5.00. St. Louis: C. V. Mosby Company, 1937.

This book has nine chapters. The second chapter, giving the historical introduction by Irving S. Cutter, presents a most interesting dissertation on the history of physical diagnosis. The various chapters deal with different parts of the body considered systematically and are most ably presented. The various facts that may be elicited by physical diagnosis *per se* are well pointed out. The illustrations are appropriately placed and are worthy of a place in any practice of medicine. An attempt is made at all times, a fact that becomes more and more evident throughout the work, to correlate the illustration and the method of physical examination under discussion. The five color plates are excellent.

There is a definite desire on the part of the author to emphasize the importance of history taking as a part of the examination. It would not be amiss to say that Dr. Sutton considers history taking as a fifth method of physical examination. The importance of inspection in the examination is emphasized. The underlying pathology that can be revealed by the eyes alone is stressed at all times.

The author has taken a difficult didactic subject and presented it in a most attractive manner. Undoubtedly this is one of the better books.

Personal Hygiene. By C. E. Turner, Dr. P. H., Professor of Biology and Public Health, Mass. Inst. Tech. Pp. 335, with 87 illustrations. Cloth. Price, \$2.25. St. Louis: C. V. Mosby Company, 1937.

Dr. Turner has the happy faculty of being able to write very concisely, but authorita-

tively. When reading this book one can almost imagine one's self in the lecture room. The author takes up the anatomy and physiology of the various systems of the human body. He succeeds in doing this clearly by the use of simple explanations and definitions; and by not entering into controversial subjects.

In discussing the physiology he makes common sense comments as how best to preserve the normal functions and, therefore, prevent disease. In addition to the chapter on digestive physiology, there is one on nutrition which discusses the various foods and diets, and gives a short resume of our essential needs of the vitamins.

He explains briefly the various forms of immunity, and discusses some of the more common acute diseases and their prevention, as well as the recognition and prevention of venereal diseases.

There is also a chapter on heredity. The author discusses the abuses of stimulants, and the detrimental effects of narcotics. The book contains a glossary of all technical terminology used in the text, and an appendix which gives the calorie values and chemical constituents of the more common foods.

Because of the terminology and manner in which the subject matter is presented, this book—as Dr. Turner states in his preface—is best adaptable to college level groups.

New and Nonofficial Remedies, 1937. Containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1937. Pp. 557, LXIV. Cloth. Price, \$1.50. Chicago: American Medical Association, 1937.

The annual editions of this volume contain all that the busy physician needs to know concerning the newer preparations which he is daily importuned by the detail men of the pharmaceutical manufacturers to use. The remedies listed and described here have been examined and found acceptable by the Council on Pharmacy and Chemistry, the deliberative body charged by the American Medical Association with the performance of this service for the practitioner, who has not the time or means to make the determinations for himself.

Some new drugs have been added in the

1937 edition, the descriptions of which will be found in the groupings to which they belong. There are some noteworthy changes in classification. The various vaso-constrictors, benzedrine, ephedrine, epinephrine and neosynephrin, have been grouped together as phenylalkylamine derivatives under the heading "Epinephrine and Related Preparations." This terminology is in keeping with the Council's policy of avoiding therapeutically suggestive names. Another similar change is the abandonment of the classification "Medicinal Foods" and substitution of a chapter under the title "Vitamins and Vitamin Preparations for Therapeutic and Prophylactic Use" in the previous edition. The consideration of other classes of food preparations was long ago transferred to the Council on Foods. The chapter "Organs of Animals" which has heretofore included only endocrine preparations has been expanded by transfers to this heading of the chapters Liver and Stomach Preparations, and Insulin.

The book contains general articles, descriptive of the classification under which the various drugs are listed. According to the preface, more or less thorough-going revisions have been made of the articles: arsenic compounds, compounds containing trivalent arsenic, compounds containing pentavalent arsenic, bismuth compounds, epinephrine and related preparations, iodine compounds, iodine compounds for systemic use, mercury and mercuric compounds, pituitary gland, salicylic acid compounds, serums and vaccines, antipneumococcic serums, silver preparations, tannic acid derivatives.

Annual Reprints of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1936, with the comments that have appeared in the *Journal*. Pp. 104. Cloth. Price, \$1. Chicago: American Medical Association.

This book is essentially a record of the negative actions of that distinguished body, the Council on Pharmacy and Chemistry of the American Medical Association; that is, it sets forth the findings concerning medicinal preparations which the Council has voted to be acceptable for recognition and use by the medical profession. Many of the reports record outright rejection or the rescinding of previous acceptances; others report in a pre-

liminary way on products which appear to have promise but are not yet sufficiently tested or controlled to be ready for general use by the profession.

Among the reports on out-and-out unacceptable products are Amend's Solution and the "Igol" products, iodine preparations marketed under misleading or unacceptable claims, the latter under an uninformative proprietary name; Androstine-Ciba, claimed to be a testicular extract and found to be an irrational combination of inactive preparations, marketed with unwarranted and misleading claims; Gadoment, a preparation of cod liver oil in a wax base with zinc oxide, benzoin and phenol, proposed for use in the treatment of burns, cuts and minor skin irritations, found acceptable as being an unoriginal product of insufficiently declared composition, marketed under a coined proprietary name with unwarranted therapeutic claims, and indirectly advertised to the public; the "Carasyl" preparations which are essentially mixtures of psyllium flour, karaya gum and fig flour, marketed with unsubstantiated therapeutic claims under a proprietary name.

In 1934 the Council sponsored an exhaustive report on bacteriophage therapy which pointed out that in view of the present status of knowledge, no such preparations could be accepted for new and nonofficial remedies. In this volume of the collected Council reports the Council declares the "Phagoid" preparations, a line of bacteriophage products, definitely unacceptable because they are offered to the medical profession with unscientific, unwarranted claims, thus encouraging physicians to use in a routine way medicaments, the therapeutic value of which had not been established, and because the preparations conflicted in other ways with the rules of the Council.

This volume includes a preliminary report on Trichophytin and Oidiomycin,—trichophytin preparations marketed by Lederle Laboratories, Inc. This report is a sequel to the preliminary report on Trichophytin Extract issued in 1932, which postponed consideration to await development of further clinical evidence on Trichophytin therapy. Also included in this volume is a report on the un-

acceptability of two trichophytin preparations, Dermatomycol and Dermotriocitin, distributed in this country by Ernest Bischoff Co., Inc., under the stated proprietary names without sufficiently declared composition and with unwarranted therapeutic claims.

Other preliminary reports are Refined and Concentrated Antipneumococcal Serum Type VII—Lederle, Present Status of Tetrachlorethylene (since accepted for N. N. R.), Smallpox Vaccine (From Chick Chorio-Allantoic Membrane)—Lilly, and Use of Trichloroethylene for General Anesthesia.

Why We Do It. By Edward C. Mason, M. D., Professor of Physiology, University of Oklahoma. Pp. 177. Cloth. Price, \$1.50. St. Louis: C. V. Mosby Company, 1937.

One understands from the preface that this book is written for the lay reader rather than the professional one, yet in many cases the author becomes quite technical, presupposing considerable medical knowledge on the part of the reader. It seems to add nothing to the quantities of literature which has been written on the subject of psychology and psychiatry for the purpose of helping the individual adjust himself, or the parent the child. But for the individual who wishes to obtain more knowledge about psychology and psychiatry merely as a matter of information, much may be gained from reading this volume. One is inclined to feel that the author has, at times, been a bit careless in his statements. It is felt that if the author wishes to discuss the inherent tendencies of humanity with social standards as they are today and previously he should not limit himself to the last two or three hundred years.

The strength of the book lies in the emphasis which it places upon the relationship of physical and mental health and the necessity of remembering the need of careful physical examination before the diagnosis of the mental disease is made. With the return of psychiatry to sanity fewer books will be published for perusal by the general public, the result of which makes the reader unhealthily introspective. This book does not lead to introspection but gives information which the reader may or may not agree with, depending upon his own philosophies and upon his knowledge of psychiatry and psychology.

1789—MEDICAL SOCIETY OF DELAWARE—1937

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Historian: R. C. Beebe.

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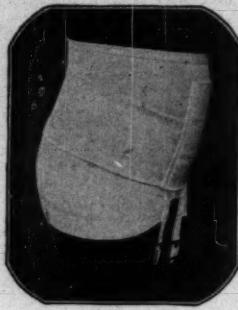
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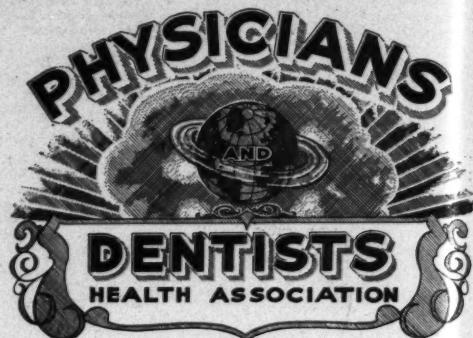
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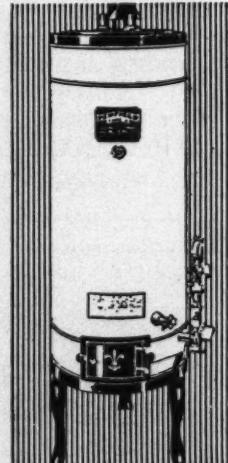
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